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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/500,349

11/18/2005

Hans G. Fritz

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2646

7590 06/20/2008
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EXAMINER

CHANG, VICTOR S

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

06/20/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/500,349	Applicant(s) FRITZ ET AL.	
	Examiner Victor S. Chang	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 February 2008 and 08 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-8,11-23,25,27,28,30 and 31 is/are pending in the application.
- 4a) Of the above claim(s) 15-23,25,27,28,30 and 31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-8 and 11-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/2/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I (claims 1-14) and Species of absorbing agent zeolite (claim 4) in the respective replies filed on 2/1/2008 and 5/8/2008 is acknowledged. The traversal is on the ground(s) that US 5384047 fails to teach a secondary pore structure, therefore the unity of invention should be maintained, and restriction should be withdrawn. However, in view of the grounds of rejection set forth below, the restriction requirement is maintained. Claims 3, 9, 10, 24, 26, 29 and 32-46 have been cancelled. Claims 1, 2, 4-8 and 11-14 are active. Claims 15-23, 25, 27, 28, 30 and 31 are withdrawn.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 4-8 and 11-13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sheckler et al. [US 5114584].

Sheckler's invention relates to a porous filter body comprising at least about 75 weight percent of zeolite molecular sieve material (adsorbing material) and from about 9 to about 20 weight percent of nylon [abstract; col. 3, ll. 15-16]. Various commercially available nylons include Nylon-6, Nylon-6/6, Nylon-6/9, Nylon-6/12, Nylon-11, and Nylon-12 can be used [col. 5, ll. 10-12]. Fig. 1 illustrates that a mixture of molecular sieve, powdered thermoplastic material, such as the powdered nylon, etc., is charged to a mixer to form a homogeneous mixture, transferred to a die, pressed to a green body, transferred to a furnace and heated under a reduced pressure from about 450 to about 460 °F to form a porous filter body containing less than 0.5 wt% of moisture [col. 6, ll. 61 through col. 7, ll. 46]. The porous filter body generally has a density from about 14 to about 25 g/in³ [col. 9, ll. 18-21].

For claims 1 and 2, Sheckler's molecular sieve or zeolite reads on the "porous functional solid" of the claimed invention. Since Sheckler teaches a porous filter body, the nylon powder in the molding mixture inherently forms a polymer matrix, which necessarily has a porous structure for providing access to the adsorbing molecular sieve particles. Sheckler is silent about the pore diameter of the polymer matrix (secondary pore diameter). However, since Sheckler teaches the same subject matter for the same end use, a workable pore diameter of the polymer matrix is deemed to be either anticipated, or obviously provided by practicing the invention of the prior art, dictated by the same end use.

For claims 4 and 5, Sheckler teaches that various zeolite molecular sieves can be used [col. 3, ll. 15 through col. 4, ll. 52].

For claims 6-8, the thermal properties of nylon are deemed to be inherent to the same chemistry.

For claim 11, Sheckler teaches a molded article, which inherently has a shape.

For claim 12, Sheckler teaches that the molecular sieve has a theoretical equilibrium water capacity of 24 wt% [col. 4, ll. 42], and teaches an improved water capacity which is substantially greater than the water capacity of prior art filter bodies [col. 9, ll. 55-58]. A workable water capacity is deemed to be an obvious routine optimization to one of ordinary skill in the art, motivated by the desire to obtain required absorbing properties for the same end use as the claimed invention.

For claim 13, Sheckler teaches that the porous filter body generally has a compressive strength of at least about 500 lb/in² [col. 9, ll. 29-32]. A workable compressive strength measured in N/m² is deemed to be anticipated, or obviously provided by practicing the invention of prior art.

For claim 14, the examiner takes Official notice that a filter body having a honeycombed geometry for an improved efficiency is common and well known. It would be an obvious to one of ordinary skill in the art to make Sheckler's porous filter body in a honeycombed geometry, because the selection of a known material based on its suitability for its intended use supported a *prima facie* obviousness determination. See MPEP § 2144.07.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor S. Chang whose telephone number is 571-272-1474. The examiner can normally be reached on 7:00 am - 5:00 pm, Tuesday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Victor S Chang/
Primary Examiner, Art Unit 1794